

**SONY®**

# STEREO TAPECORDER TC-230

OWNER'S INSTRUCTION MANUAL / MODE D'EMPLOI / BEDIENUNGSANLEITUNG





## Owner's instruction manual

The SONY Model 230 features a complete stereo music control center with integrated lid speaker.

### Special features: Stereo Music Center

This compact, but incredibly powerful stereo music control center consists of an amplifier utilizing quality SONY silicon transistors. A precision 4-track stereo tape deck and high performance speaker systems...Three pairs of stereo inputs: tuner, phonograph and microphone that correspond to the settings of the source selector on the front panel...Noise suppressor removes undesired high frequency noise...Line outputs and stereo headphone jack are provided for

flexibility...The OTL (Output Transformerless) circuits together with quality selected speakers assure superb tone quality.

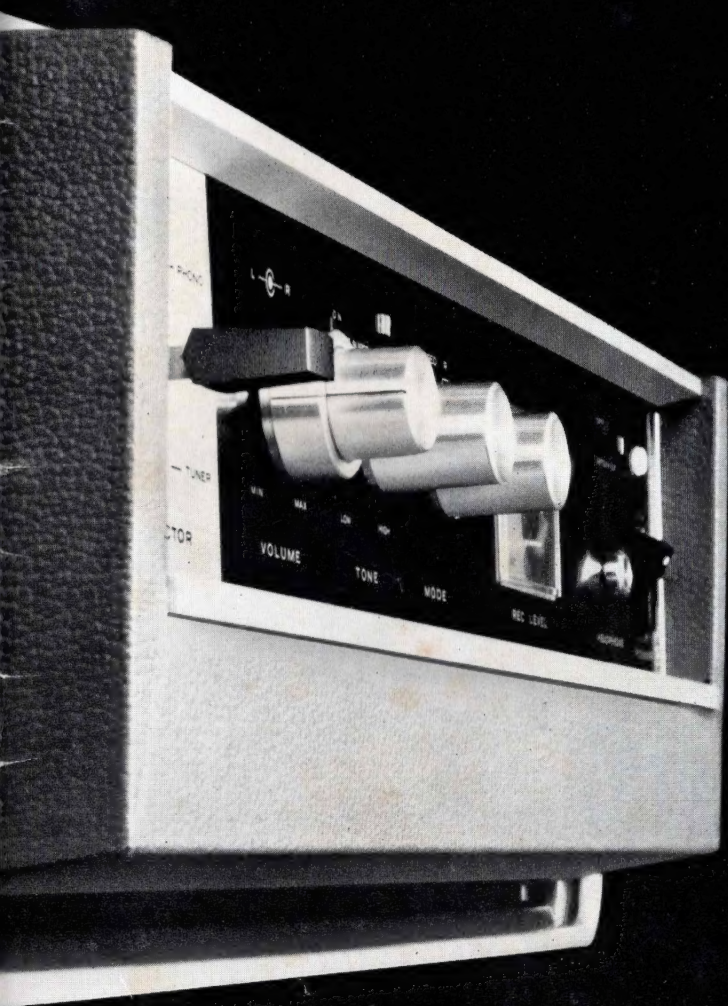
### Other features...

Horizontal-styled 4-track stereo tape deck with three speeds, automatic sentinel shut-off switch and retractable pinch roller for easy tape threading.

Read this manual carefully before operating and save it for future reference.



# Contents



Location of Controls and Connectors .....	3
Operation of Controls .....	5
Input and Output Connectors .....	8
How to set up and use the 230 as a stereo center .....	11
Connection—Operation .....	
How to use the 230 as a tape deck .....	12
Tape threading and Tape speed setting—4-track stereo tape playback—4-track monophonic tape playback—4-track stereo recording—4-track monophonic recording—Monitoring—Eras- ing tape—Splicing tape .....	
Adaptation to the local Power line .....	16
Maintenance .....	17
Technical Specifications .....	19
Schematic Diagram .....	60
Recommended Accessories .....	61



# Location of Controls and Connectors

Tape Speed Selector [TAPE SPEED] 1

Feed Reel Spindle 2

Tape Counter 3

Tape Counter Reset Button 4

Instant Stop Lever [INST STOP] 5

Record Button [RECORD] 6

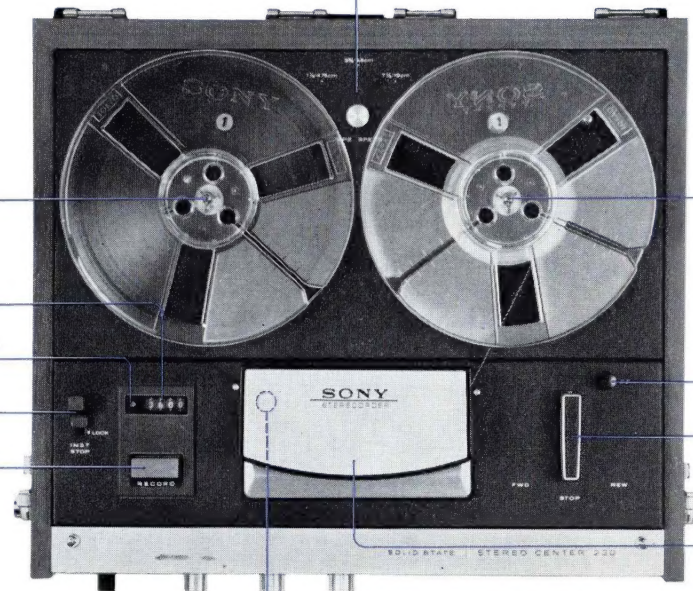
Take-up Reel Spindle 7

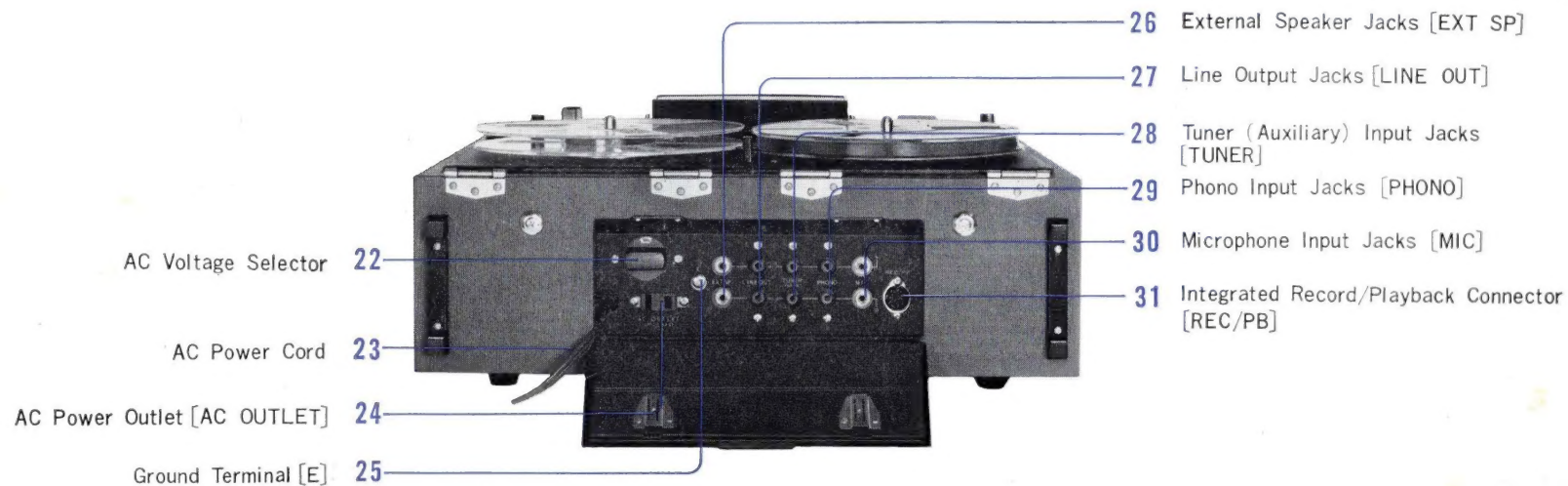
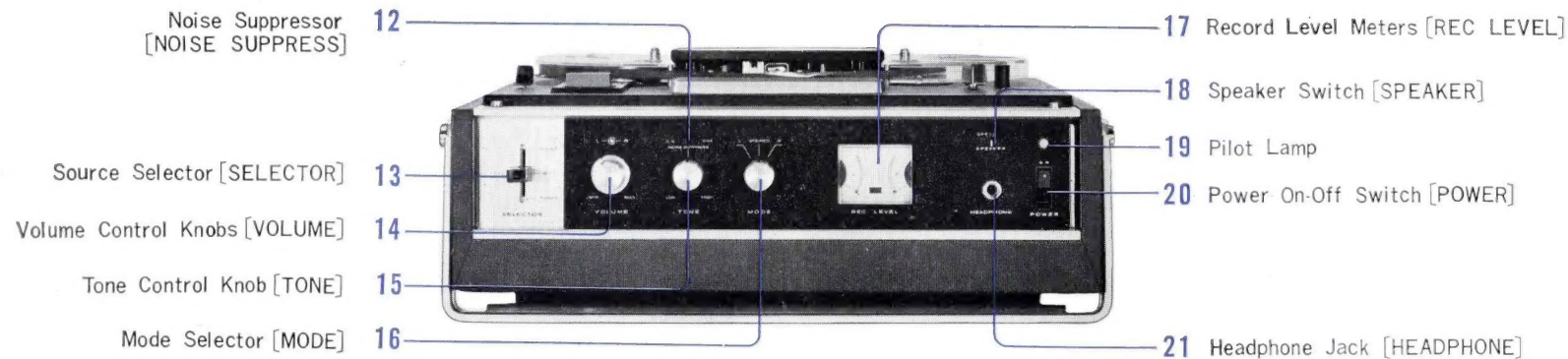
Fast Forward Button [FF] 8

Function Selector 9

Head Cover 10

Automatic Shut-off Switch 11





# Operation of Controls

The numbers of the following paragraphs correspond to the numbers on the illustration on page 3 and 4.

## **1 TAPE SPEED SELECTOR [TAPE SPEED]**

Selects the desired tape speed of  $7\frac{1}{2}$  ips,  $3\frac{3}{4}$  ips or  $1\frac{7}{8}$  ips and automatically sets the proper recording and playback characteristics for each speed.

$7\frac{1}{2}$  ips and  $3\frac{3}{4}$  ips are ideal when recording music and best sound quality is desired.

$1\frac{7}{8}$  ips is ideal for speech especially when longer recording time is desired. In playback mode, set the tape speed to correspond with the speed of the pre recorded tape.

Change tape speed only when FUNCTION SELECTOR is in [STOP] position.

## **2 FEED REEL SPINDLE**

Tape travels from left to right therefore tape is started from this spindle.

## **3 TAPE COUNTER**

Indexes the tape used in record or playback. Press the reset button; four zeros will appear in the window to register starting point of tape.

## **4 TAPE COUNTER RESET BUTTON**

Resets the figures on the TAPE COUNTER window as mentioned above.

## **5 INSTANT STOP LEVER [INST STOP]**

Instantly stops tape motion while the recorder is in either record or playback mode.

Pull the lever toward you until it locks into position.

To release, push the lever down, the tape will immediately pick up normal forward speed.

## **6 RECORD BUTTON [RECORD]**

Activates the record mode switch. While pressing the button, turn FUNCTION SELECTOR to [FWD] position; the tape motion will start and red lamps in the RECORD LEVEL METERS will illuminate indicating that the recorder is in RECORD mode. If FUNCTION SELECTOR is turned to [STOP] position while recording, RECORD BUTTON will be released and the recorder will automatically switch from record to playback mode.

Turn FUNCTION SELECTOR to either [FWD] or [REW] position to release locked record button. This button also activates inputs or outputs through RECORD/PLAYBACK CONNECTOR.

## **7 TAKE-UP REEL SPINDLE**

For placing an empty reel.

## **8 FAST FORWARD BUTTON [FF]**

This button is used in conjunction with FUNCTION SELECTOR to facilitate fast forward tape motion.

Turn FUNCTION SELECTOR to [STOP] position, and while pressing this button, turn FUNCTION SELECTOR to [FWD] position.

This button will then be locked and the tape will rapidly move forward.

To stop fast tape motion, turn FUNCTION SELECTOR to [STOP] position.

## **9 FUNCTION SELECTOR**

Controls all tape motions [FWD] forward, [STOP] and [REW] rewind.

To play tape, turn the selector to [FWD] position.

To stop tape, turn the selector to [STOP] position.

To record, press RED record button and simultaneously turn the selector to [FWD] position.

To rewind tape, turn the selector to [REW] position.



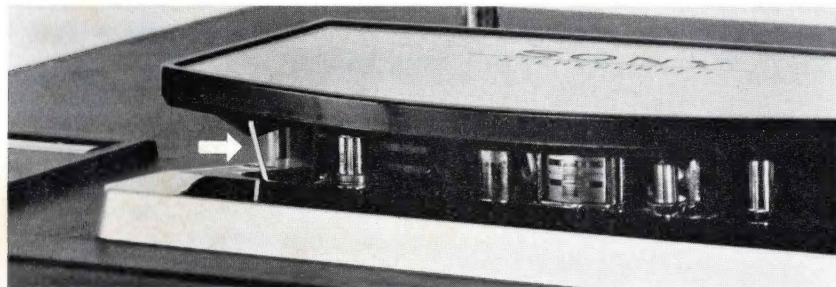
## 10 HEAD COVER

Protects the heads. When cleaning the tape path, demagnetizing head or lubricating capstan or pinch roller, etc., remove the head cover by loosening the screws located at the rear side of the cover.

## 11 AUTOMATIC SHUT-OFF SWITCH

This is a sentinel switch for automatically shutting off tape transport when end of available tape is reached. This switch is controlled by a wire lever located under the HEAD COVER.

In [STOP] position, the shut-off lever recedes to facilitate smooth tape threading. In [FWD], [REW] or [FF] position, after the tape is threaded, the lever contacts the tape and is held in operating position. If the tape runs out or breaks the lever will fall forward and activates SHUT-OFF SWITCH which stops the tape transport. However, the amplifier remains ON.



## 12 NOISE SUPPRESSOR [NOISE SUPPRESS]

Cuts off signals above 9 kHz.

With the setting of this switch to [ON], objectionable high-frequency noise such as record scratch or tape hiss is removed from the program material. This suppressor does not affect response to frequencies below 9 kHz allowing full pass-band for the major part of the audio frequency range.

## 13 SOURCE SELECTOR [SELECTOR]

Selects any of three input program sources; [PHONO] [TAPE-MIC] or [TUNER].

[PHONO] position

Connects phonograph inputs. Stereo or monophonic discs loaded on a turntable connected to PHONO INPUT JACKS can be played or recorded through this position.

[TAPE-MIC] position

Activates stereo or monophonic microphone inputs or REC/PB CONNECTOR inputs, as well as providing playback of stereo or monophonic tapes.

[TUNER] position

Connects FM/AM tuner inputs. Stereo or monophonic radio programs can be recorded and monitored simultaneously in this position.

## 14 VOLUME CONTROL KNOBS [VOLUME]

Control the record, speaker, headphone, or line output volume of both left [L] and right [R] channels. Both knobs will rotate simultaneously or separately. For balancing stereo sound, turn one knob while holding the other stationary. The outer knob controls the left channel and the inner knob controls the right channel.

### **15 TONE CONTROL KNOB [TONE]**

Controls tone quality of left channel and right channel through the speakers, headphone or line outputs in playback. Turn clockwise for treble sound, turn counter-clockwise for bass sound. Center line is adjusted for flat response.

### **16 MODE SELECTOR [MODE]**

Has three positions [L], [STEREO] and [R].  
Avoid use of this selector while recording.

[L] position

Connects left channel sound to left and right speakers or headset, as well as activating the left channel recording facility.

[STEREO] position

Connects left and right channel sound to the respective speaker or headset. Activates both left and right channel recording facilities.

[R] position

Connects right channel sound to left and right speakers or headset, as well as activating the right channel recording facility.

### **17 RECORD LEVEL METERS [REC LEVEL]**

Indicates the signal level being recorded.

Deflection of the needle to the boundary of the red and black zones provides normal recording level. However, occasional transient peaks will swing the needle into the red zone without detrimental effect. The red lamp in the meters illuminates when the recorder is in RECORD mode.

### **18 SPEAKER SWITCH [SPEAKER]**

Switches the speakers ON or OFF in either play or record position. While speaker monitoring, loudness can be adjusted in two steps: [1] position is for soft sound and [2] position is for loud sound. When monitoring through HEADPHONE JACK, turn this switch off.

### **19 PILOT LAMP**

Illuminates when the power is ON.

### **20 POWER ON-OFF SWITCH [POWER]**

Switches the operating power ON or OFF.

### **22 AC VOLTAGE SELECTOR**

Selects the operating AC power line voltage of 100V, 110V, 117V, 125V, 220V or 240V.

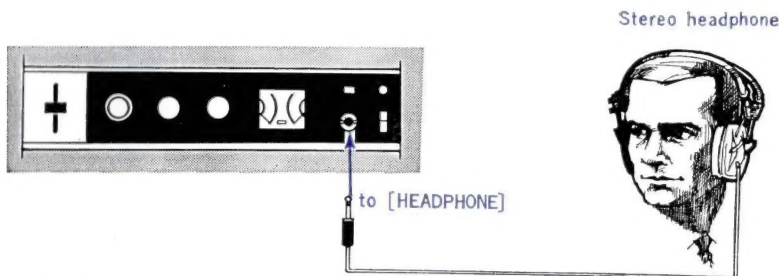
Before connecting the recorder to power line, check whether the selector is correctly set for operating the local power supply voltage in your area.



# Input and Output Connectors

## 21 HEADPHONE JACK [HEADPHONE]

Connects to any high quality 8 ohm or 10 K ohm stereo headphone equipped with a standard phone plug. The recommended headphones are the SONY Stereo Headphone DR-4A and DR-5A (optional accessory). When the headphone is connected, turn SPEAKER SWITCH OFF and adjust VOLUME CONTROL KNOBS and TONE CONTROL KNOB to obtain desired volume and tone quality.



## 23 AC POWER CORD

For connecting to AC household power line. Plug the end of the cord into the AC outlet.

## 24 AC POWER OUTLET [AC OUTLET]

Supplies AC power at a maximum of 300 watts to other components when the AC POWER CORD is connected to an AC wall outlet. This outlet is not switched off by POWER ON-OFF SWITCH.

## 25 GROUND TERMINAL [E]

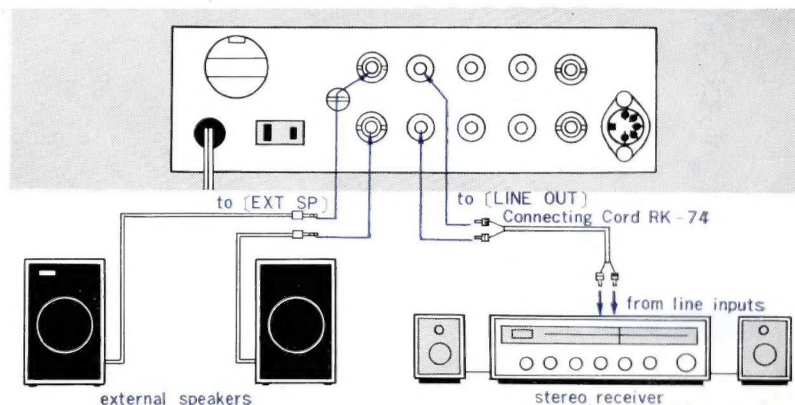
For ground connection with player or the earth.

## 26 EXTERNAL SPEAKER JACKS [EXT SP]

Equipped with mini jacks. Connect any 8 ohm external speakers. The recommended speakers are the SONY Speaker System SS-23 (optional accessory). Connect the left [L] speaker to [L] jack and the right speaker to [R] jack respectively.

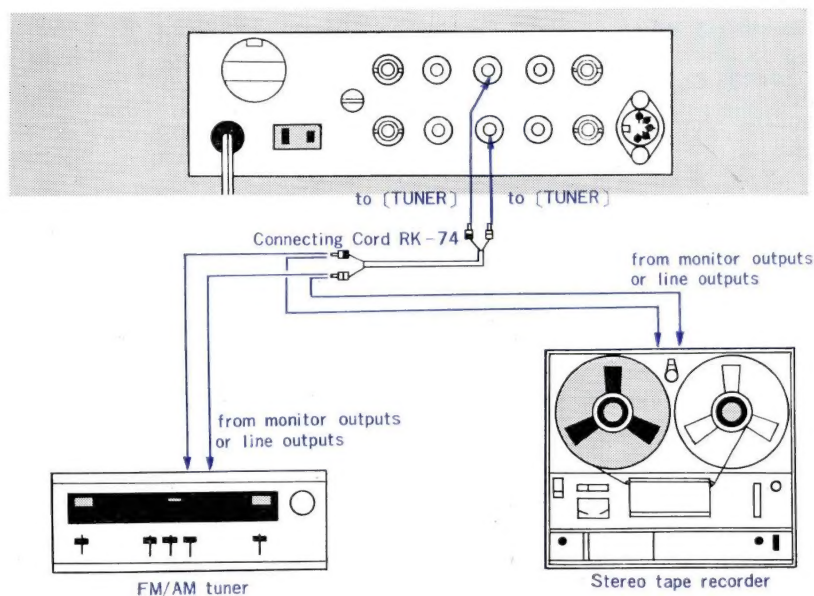
## 27 LINE OUTPUT JACKS [LINE OUT]

Equipped with phono jacks. Connects outputs to another tape recorder inputs, or the tape recorder inputs, auxiliary inputs, or line inputs of an integrated amplifier or pre-amplifier having an impedance of more than 10K ohms. Tone quality and sound volume of outputs will be controlled by turning VOLUME CONTROL KNOBS and TONE CONTROL KNOB. When the NOISE SUPPRESSOR is turned on, high frequencies above 9 kHz of output are cut off.



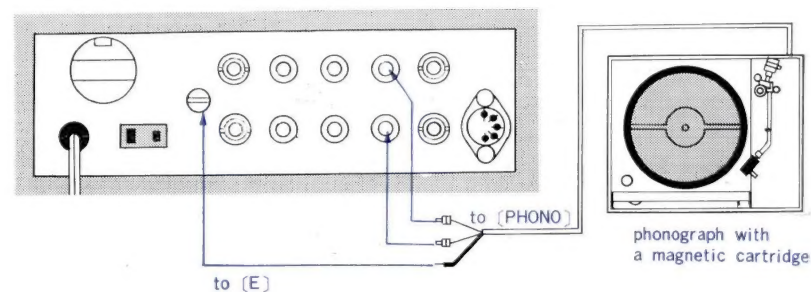
## 28 TUNER (AUXILIARY) INPUT JACKS [TUNER]

Equipped with phono jacks. Will accept outputs of FM/AM tuner, integrated amplifier (recording outputs), tape recorder (monitor outputs or line outputs) for listening or recording programs directly from the connected component. These inputs have an impedance of 100K ohms.



## 29 PHONO INPUT JACKS [PHONO]

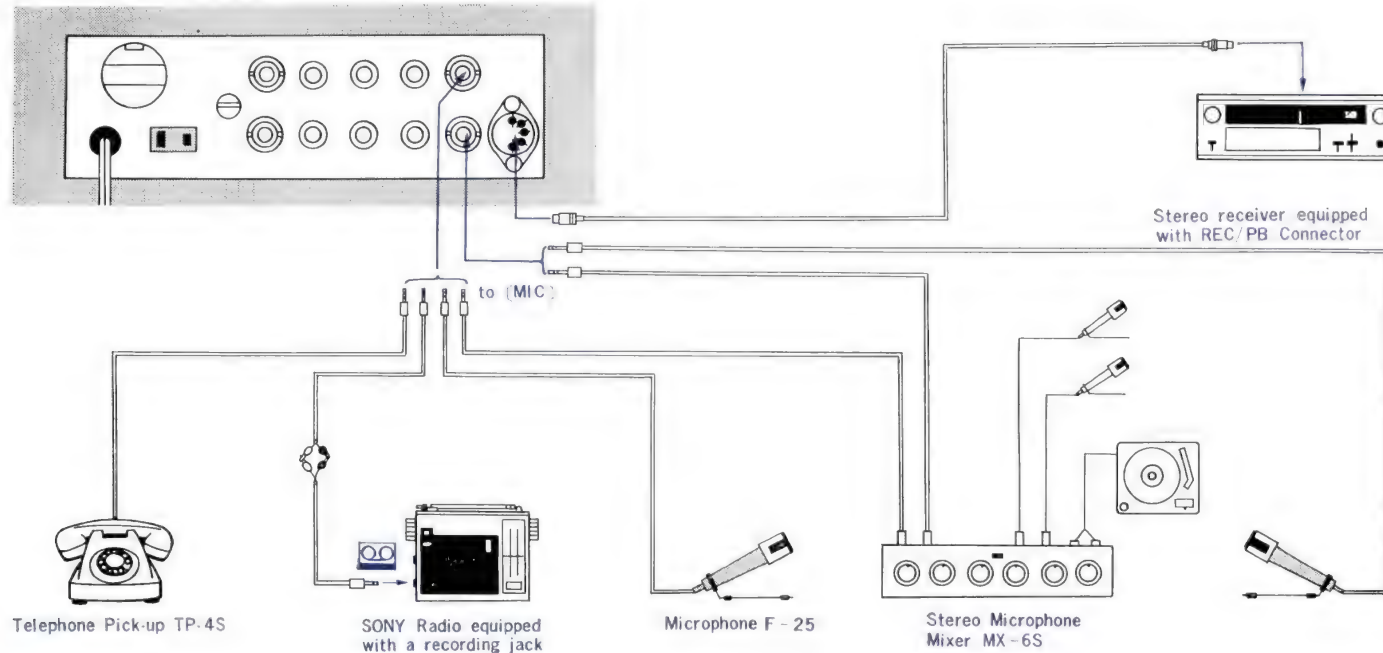
Equipped with phono jacks. Connect magnetic type cartridge having sensitivity of more than 4 mV. These inputs have a sensitivity of 2 mV. The desired sound volume of the phonograph inputs is controlled by the VOLUME CONTROL KNOBS, according to the cartridge used.





### 30 MICROPHONE INPUT JACKS [MIC]

Equipped with mini jacks. Will accept dynamic microphone F-25 (supplied) or any high quality low impedance microphone. Also accepts inputs of a telephone pick-up such as SONY TP-4S (optional accessory), stereo microphone mixer SONY MX-6S (optional accessory) and SONY radio equipped with a recording jack. Public address can be obtained through these jacks.



### 31 INTEGRATED RECORD/PLAYBACK CONNECTOR [REC/PB]

This 5-pin socket is used for interconnection of inputs and outputs of the recorder with a receiver or an amplifier that incorporates a matching socket.

# How to set up and use the 230 as a stereo center

## Connection

1. Insert AC POWER CORD into AC outlet.
2. Place left and right speakers and connect them to the respective EXTERNAL SPEAKER JACKS.
3. Connect stereo or monophonic source to proper inputs. Refer to "INPUT AND OUTPUT CONNECTORS" on pages 8~10.

## Operation

1. Press POWER ON-OFF SWITCH to turn the power ON.  
Make sure to set FUNCTION SELECTOR to [STOP] position.
2. Turn SOURCE SELECTOR to respective position to inputs.
3. Set MODE SELECTOR to [STEREO] or either [L] or [R] position.
4. Turn SPEAKER SWITCH ON.  
When listening through a headphone, turn SPEAKER SWITCH OFF.
5. Adjust VOLUME CONTROL KNOBS and TONE CONTROL KNOB for desired volume and tone quality.





# How to use the 230 as a tape deck

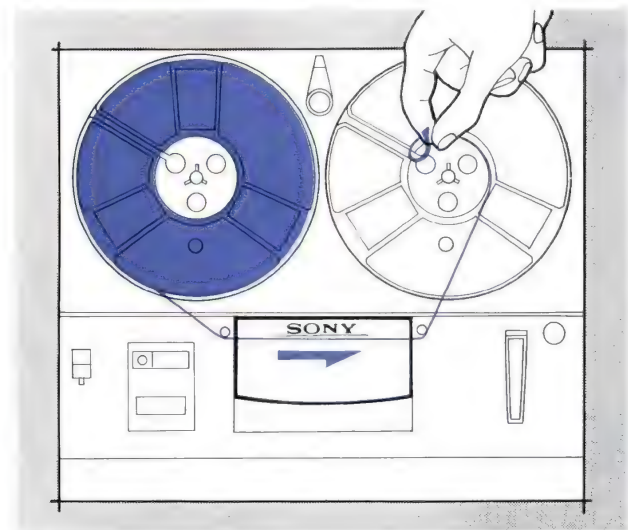
## Tape threading and Tape speed setting

Before tape threading, insert AC POWER CORD into AC outlet. Place and connect speakers.

Reel sizes from 3 to 7 inches diameter are accommodated.

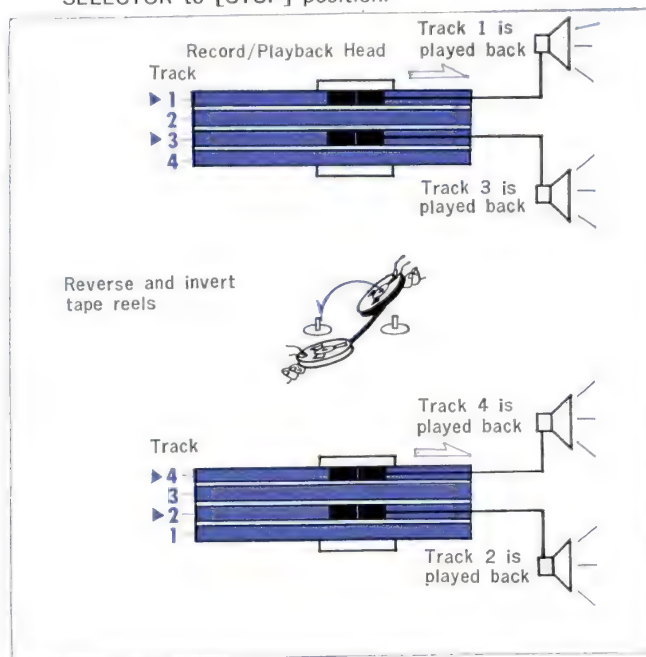
Thread the tape as follows:

1. Place an empty reel on TAKE-UP REEL SPINDLE and a full reel of tape on FEED REEL SPINDLE.
2. Unwind about 18 inches of tape or leader from the full reel of tape and bring it from left to right through the tape path under HEAD COVER. Dull side of the tape should face the heads.
3. Wrap it around the empty reel hub, or insert the end into the reel slot. (The use of a SONY Easy Tape Threader will facilitate the threading of tape).
4. Set the desired tape speed of  $7\frac{1}{2}$  ips,  $3\frac{3}{4}$  ips or  $1\frac{7}{8}$  ips by turning TAPE SPEED SELECTOR. A recording must always be played back at the same speed at which it was recorded. The supplied recorded tape is recorded at  $7\frac{1}{2}$  ips.



## 4-track stereo tape playback

1. Press POWER ON-OFF SWITCH to turn the power ON.
2. Turn SOURCE SELECTOR to [MIC-TAPE] position.
3. Set MODE SELECTOR to [STEREO] position.
4. Turn SPEAKER SWITCH ON.  
When you listen through a headphone, turn SPEAKER SWITCH OFF.
5. Turn FUNCTION SELECTOR to [FWD] position.
6. Adjust VOLUME CONTROL KNOBS and TONE CONTROL KNOB for desired volume and tone quality.
7. When track 1 and 3 (side 1) are completed, turn FUNCTION SELECTOR to [STOP] position.
8. To play tracks 4 and 2 (side 2), do not rewind the tape, simply reverse and invert the tape reels and repeat playback.
9. When tracks 4 and 2 are completed, turn FUNCTION SELECTOR to [STOP] position.



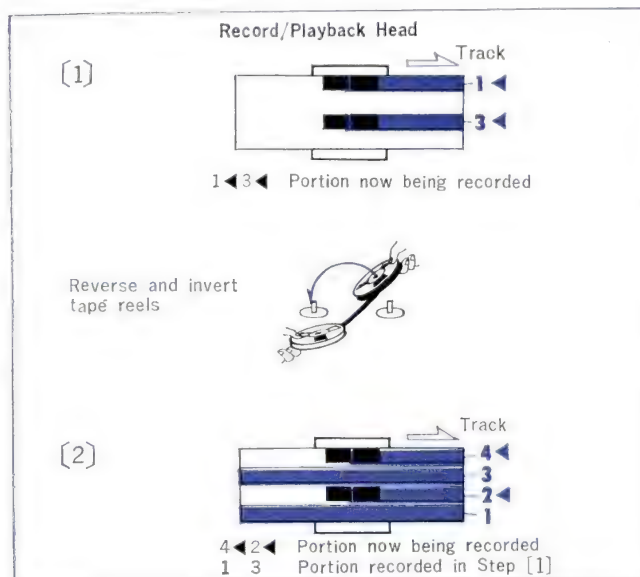
#### 4-track monophonic tape playback

The following playback procedure is recommended for a monophonic tape whose sequence of recording is: track 1—track 4—track 3—track 2.

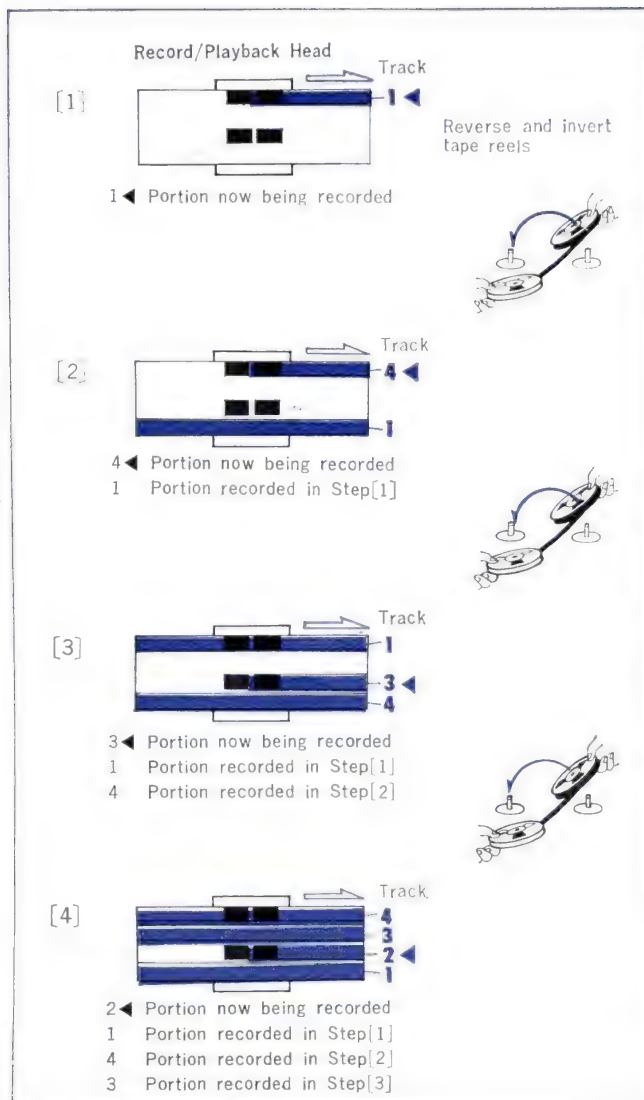
1. Press POWER ON-OFF SWITCH to turn the power ON.
2. Turn SOURCE SELECTOR to [MIC-TAPE] position.
3. Set MODE SELECTOR to [L] position.
4. Turn SPEAKER SWITCH ON.  
When you listen through a headphone, turn SPEAKER SWITCH OFF.
5. Turn FUNCTION SELECTOR to [FWD] position.
6. Adjust VOLUME CONTROL KNOB [L] and TONE CONTROL KNOB for desired volume and tone quality.
7. When track 1 is complete, turn FUNCTION SELECTOR to [STOP] position.
8. To playback track 4, do not rewind tape, simply reverse and invert the tape reels. Repeat playback.
9. When track 4 is complete, do not rewind the tape, simply reverse and invert the tape reels.
10. To playback tracks 3 and 2, set MODE SELECTOR to [R] position.  
Adjust VOLUME CONTROL KNOB [R] and TONE CONTROL KNOB.
11. When track 3 is complete, reverse and invert the tape reels to playback track 2.
12. When the end of tape is reached, turn FUNCTION SELECTOR to [STOP] position.

#### 4-track stereo recording

1. Press POWER ON-OFF SWITCH to turn the power ON.
2. Connect stereo source to proper inputs. Refer to "INPUT AND OUTPUT CONNECTORS" on pages 8~10.
3. Turn SOURCE SELECTOR to respective position of inputs.
4. Set MODE SELECTOR to [STEREO] position.
5. Press RECORD BUTTON and adjust VOLUME CONTROL KNOBS for proper recording level. See RECORD LEVEL METERS.
6. Hold RECORD BUTTON in and turn FUNCTION SELECTOR to [FWD] position. The RECORD BUTTON is now locked and recording (track 1 and 3) has started.
7. When the end of tape is reached, do not rewind. Turn FUNCTION SELECTOR to [STOP] position.
8. Reverse and invert tape reels and record side 2 (track 4 and 2). Repeat procedure in paragraphs 5 and 6.
9. When recording is complete, turn FUNCTION SELECTOR to [STOP] position. Do not rewind tape.







#### 4-track monophonic recording

1. Press POWER ON-OFF SWITCH to turn the power ON.
2. Connect monophonic source to left [L] input for source used. Refer to "INPUT AND OUTPUT CONNECTORS" on pages 8~10.
3. Turn SOURCE SELECTOR to respective position of input.
4. Set MODE SELECTOR to [L] position.
5. Press RECORD BUTTON and adjust VOLUME CONTROL KNOB [L] for proper recording level. See RECORD LEVEL METER [L].
6. Hold RECORD BUTTON in and turn FUNCTION SELECTOR to [FWD] position. RECORD BUTTON is now locked and recording on track 1 has started.
7. When the end of tape is reached, do not rewind. Turn FUNCTION SELECTOR to [STOP] position.
8. Reverse and invert tape reels and record side 2 (track 4), using procedure outlined in paragraphs 5 and 6.
9. When the end of tape is reached, turn FUNCTION SELECTOR to [STOP] position.
10. To record track 3, reverse and invert tape reels.
11. Change the connection of input program from the left [L] to the right [R] input jack.
12. Set MODE SELECTOR to [R] position.
13. Press RECORD BUTTON and adjust VOLUME CONTROL KNOB [R]. See RECORD LEVEL METER [R].
14. Hold RECORD BUTTON in and turn FUNCTION SELECTOR to [FWD]. Recording on track 3 has started.
15. When the end of tape is reached, do not rewind.
16. Reverse and invert tape reels to record track 2 using procedure outlined in paragraphs 13 and 14.
17. When recording on track 2 is complete, turn FUNCTION SELECTOR to [STOP]. Do not rewind tape.

## Monitoring

While recording, monitoring through either speakers or stereo headphone connected to HEADPHONE JACK is possible.

### Speaker Monitoring

1. Set SPEAKER SWITCH to either [1] or [2] position.
2. While recording with a microphone, howling sound (acoustic feedback) may occur when the microphone is too near the speaker. If this occurs, move the microphone away from the speaker.

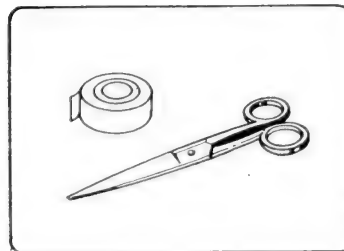
### Stereo headset Monitoring

1. Connect the headphone to HEADPHONE JACK.
2. Turn SPEAKER SWITCH OFF.

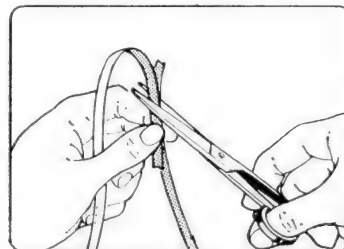
## Erasing Tape

The erase head operates only in record mode, therefore every time you make a recording, any previous recording on the tape is automatically erased.

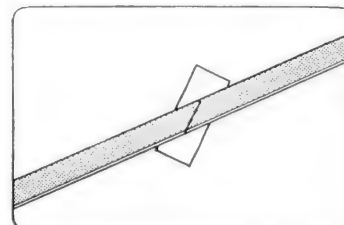
You can also erase a tape without adding a new recording. Place the recorder in record mode. Turn VOLUME CONTROL KNOBS to minimum and run the tape through without connecting any input source.



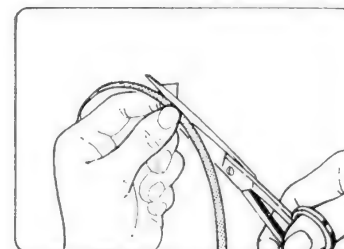
1



2



3



4

## Splicing Tape

1. Use splicing tape and a pair of scissors. Do not use ordinary cellophane tape; it tends to deteriorate.
2. Overlap recording tapes and make a diagonal cut across both tapes.
3. Carefully align and butt the cut ends together. Keep the ends in contact, firmly press a piece of splicing tape over the shiny side of the tape to make a firm joint.
4. Trim off the excess splicing tape.



# Adaptation to the local power line

## AC Voltage

The recorder can be set for operating on an AC power line voltage of either 100V, 110V, 117V, 125V, 220V or 240V by re-setting the AC VOLTAGE SELECTOR located at the rear panel. To change setting, pull out the selector cap and re-insert it to the selector with the proper voltage figure appearing in the cutout of the selector cap.

## Line Frequency

The MOTOR PULLEY and tapping of the MOTOR CAPACITOR TERMINALS must be altered if the line frequency differs from what the recorder is adjusted for.

### To change MOTOR PULLEY

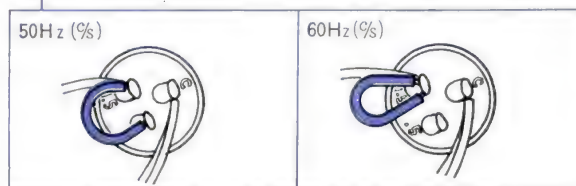
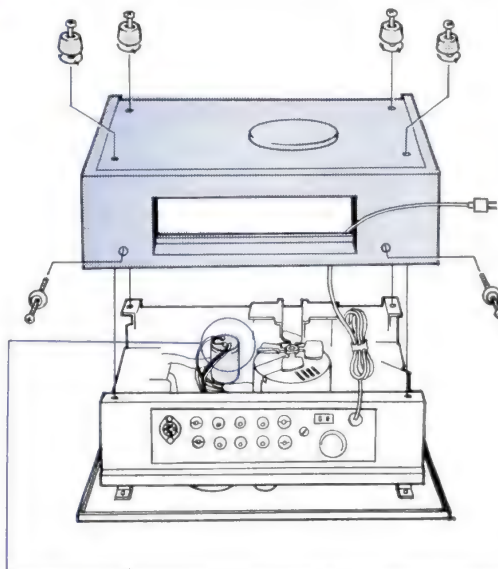
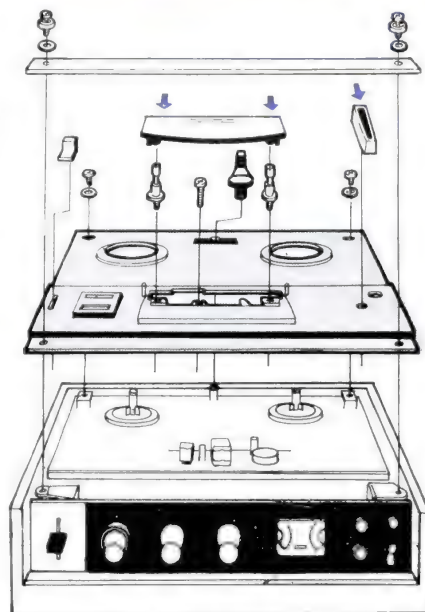
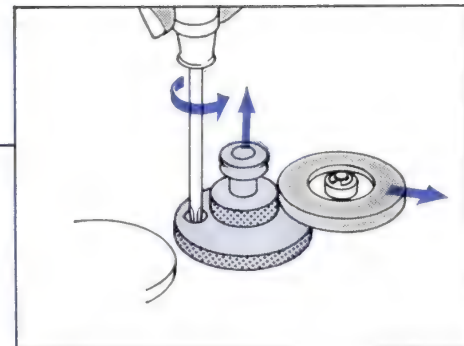
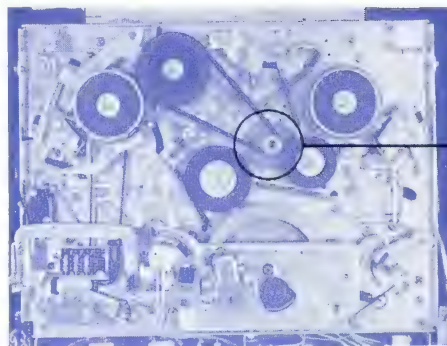
Remove the top cover panel as illustrated.

The MOTOR PULLEY is located at the center of the drive mechanism. Remove the rubber belt from the idler wheel and the motor pulley. Loosen the screw on the motor pulley and remove it by holding the idler wheel on one side. Replace the other motor pulley supplied with the recorder and tighten the screw. Thread the rubber belt on the motor pulley and the idler wheel and then, place the top cover panel.

### To change tapping of the MOTOR CAPACITOR TERMINALS

The MOTOR CAPACITOR is located at the rear side of the drive mechanism. Loosen 4 screws located at the bottom and 2 screws at the rear panel.

Change the tapping of the terminals by soldering as illustrated.

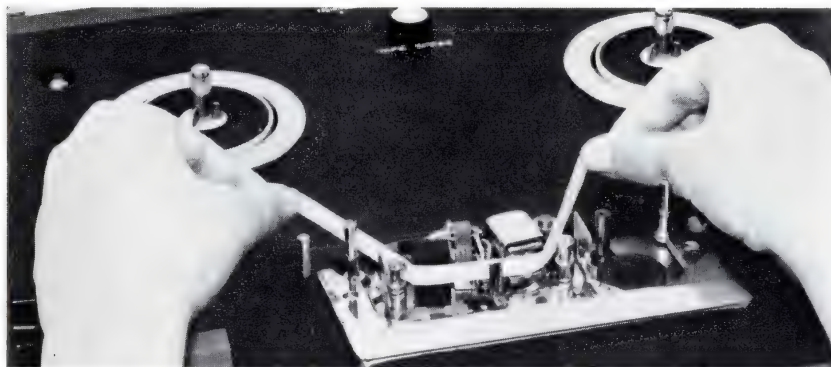


# Maintenance

## Cleaning heads

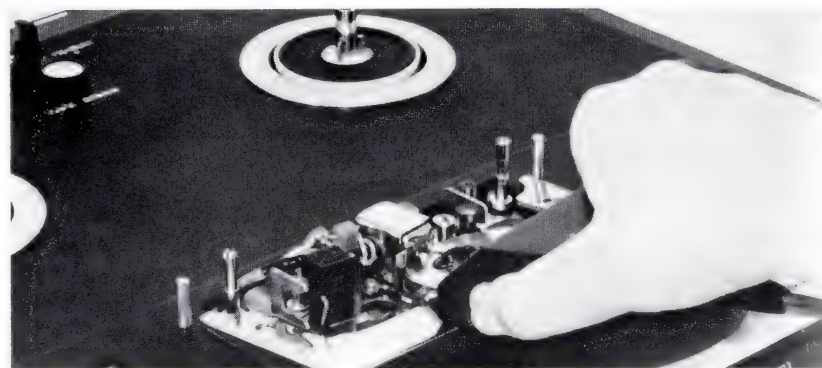
The iron oxide particles in the tape may build up a deposit on the heads. These deposits prevent complete erasure of old recordings when reusing the tape. They may also cause weak or distorted recordings. Therefore, it is better to clean the heads after every ten hours of use.

Remove HEAD COVER by loosening the screws located at the back of the cover with a small screw driver. Use the head cleaning ribbon supplied or a soft cloth and carefully wipe the portion of the heads over which the tape travels. When the deposits cannot be removed, moisten the ribbon or cloth with denatured alcohol. The use of inferior brands of tapes will result in excessive oxide deposits. Frequent inspection of the heads will help maintain optimum performance. The use of SONY Tape is recommended for best results.



## Demagnetizing heads

Through continuous use, residual magnetism will be gradually built up on the heads and this excessive residual magnetism will produce noise while the tape is being played. Therefore, periodic use of the SONY Head Demagnetizer HE-2 (optional accessory) or equivalent is recommended for best possible performance.





## Lubrication

Use light machine oil and lubricate CAPSTAN, PINCH ROLLER and IDLER SHAFT every 6 months. Avoid excessive lubrication. It may cause slippage in the mechanism and contamination of your tape.

### (1) CAPSTAN bearing

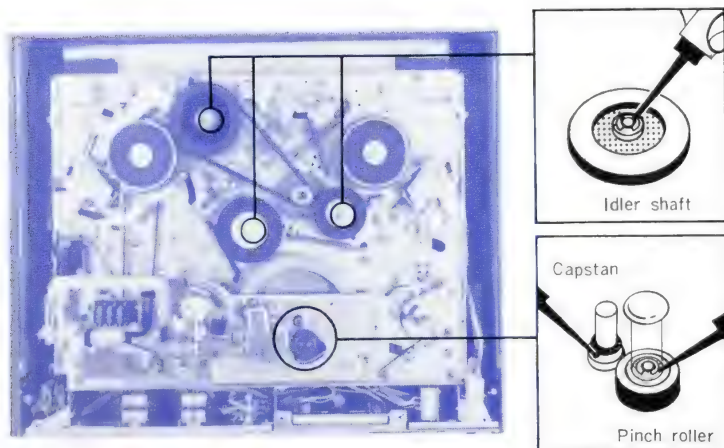
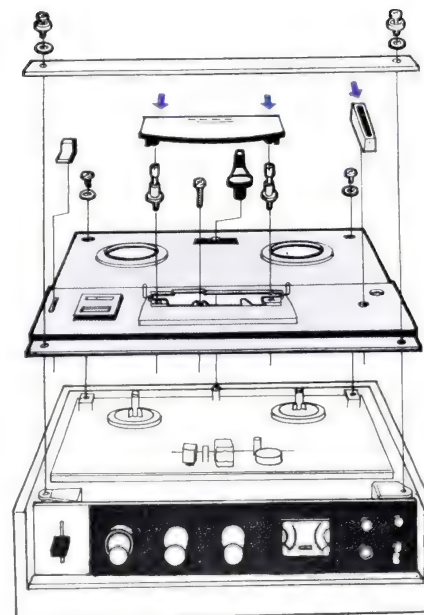
Remove the HEAD COVER by loosening the screws located at the rear side of the head cover. Lubricate with 3 drops of light machine oil. Don't stain capstan surface.

### (2) PINCH ROLLER bearing

Remove the HEAD COVER by loosening the screws located at the rear side of the head cover. Lubricate with 1 drop of light machine oil. Don't stain rubber surface.

### (3) IDLER SHAFTS

Remove the HEAD COVER, TAPE SPEED SELECTOR KNOB, INSTANT STOP LEVER, FUNCTION SELECTOR KNOB by loosening retaining screws. Then remove the top cover panel by loosening 7 screws as illustrated. Lubricate 3 idler shaft with one drop each of light machine oil. Remove shaft cover for lubricating one shaft.



# Technical Specifications

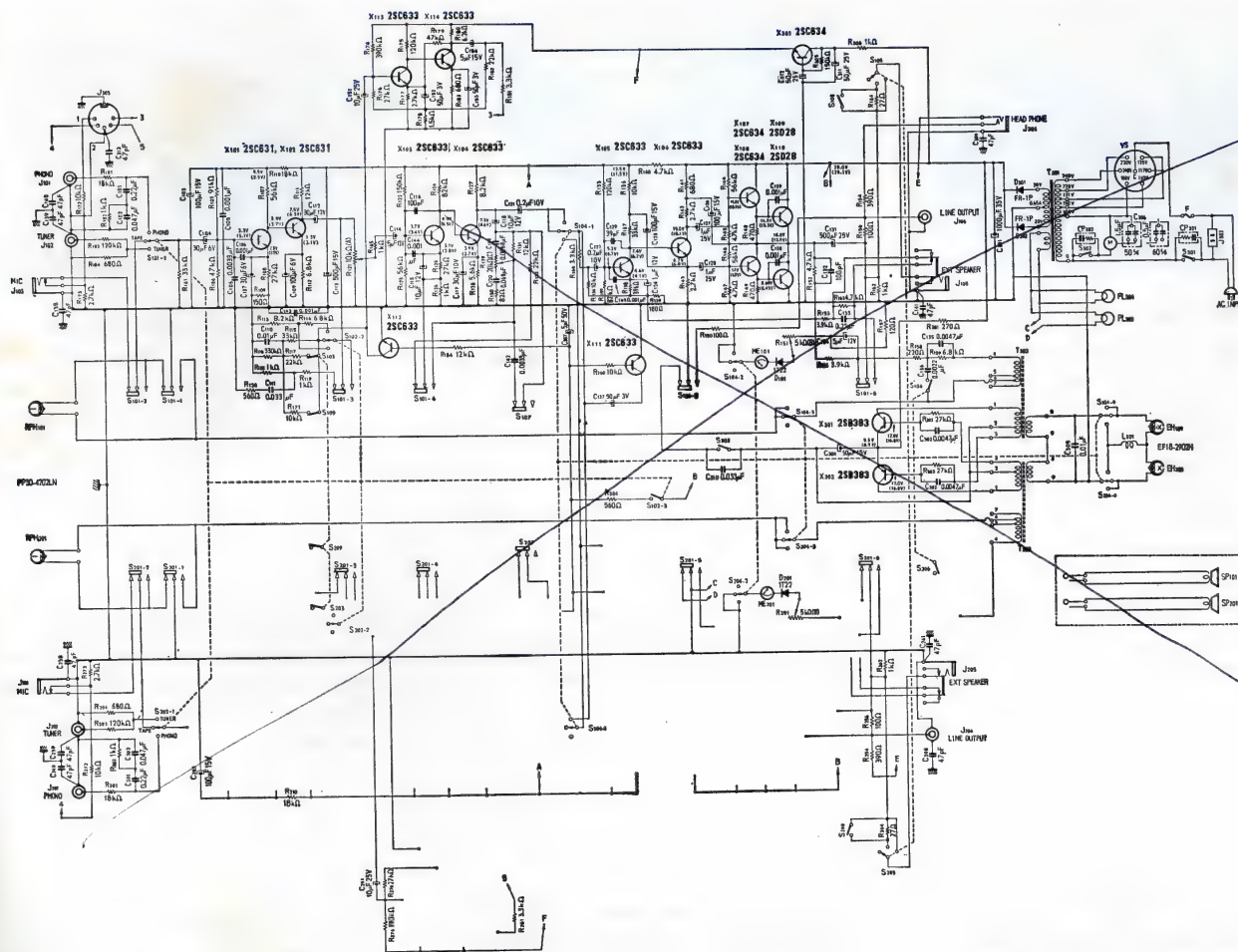
Power requirements:	AC 100, 110, 117, 125, 220 or 240V, adjustable 50/60 Hz, 60W
Reels:	7" or smaller
Tape speed:	7½ ips, 3¾ ips or 1⅞ ips with automatic switching for equalization changes
Recording system:	4-track stereophonic or monophonic
Frequency response:	40 - 18,000 Hz at 7½ ips 40 - 12,000 Hz at 3¾ ips 40 - 6,000 Hz at 1⅞ ips
Flutter and wow:	less than 0.17% at 7½ ips less than 0.3% at 3¾ ips less than 0.4% at 1⅞ ips
Signal to noise ratio:	better than 46 dB
Harmonic distortion:	less than 3% at 0 dB line output
Level indication:	VU meters
Recording time:	with 1800' tape 4-track stereo 1 hr 30 min at 7½ ips 3 hrs at 3¾ ips 6 hrs at 1⅞ ips
Power output:	12 watts total dynamic power
Inputs:	microphone inputs sensitivity: -75 dB (0.14 mV) impedance: 600 ohms tuner (auxiliary) inputs sensitivity: -25 dB (44 mV) impedance: approx. 100 K ohms phono inputs sensitivity: -52.5 dB (2 mV)

Outputs:	line outputs output level: PB +3 dB (1.1 V) REC +1 dB (0.87 V) load impedance: 10 K ohms
Record, playback connector:	input sensitivity 5.5 mV input impedance 10K ohms output level 0.775V output impedance 3.5K ohms
Speaker load impedance:	8 ohms
Headphone output impedance:	8 ohms or more
Heads:	Record Playback Head, Erase Head
Transistors:	31 pcs.
Diodes:	4 pcs.
Dimensions:	17(w) × 9½(h) × 14(d)"
Weight:	29 lb
Accessories:	Microphone F-25 (2) Recorded tape (5" reel size) (1) Reel R-7A (1) Connecting cord RK-74 (1) Motor pulley (1) Head cleaning ribbon (1)

\* Design and specifications subject to change without notice.



# Schematic Diagram / Diagramme schématique / Schaltplan



- S101, 201 : RECORD/PLAYBACK SWITCH (RECORD POSITION)  
 S102, 202 : SELECTOR SWITCH (TAPE MIC POSITION)  
 S103, 203 : PB EQUALIZER SWITCH (7-1/2 IPS, 3-3/4 IPS ON 1-7/8 IPS OFF)  
 S104, 204 : MODE SWITCH (STEREO POSITION)  
 S105, 205 : SPEAKER SWITCH  
 S106, 206 : REC EQUALIZER SWITCH (7-1/2 IPS OFF 3-3/4 IPS, 1-7/8 IPS ON)  
 S107, 207 : NOISE SUPPRESSOR ON/OFF SWITCH  
 S108, 208 : RECORD/PLAYBACK SWITCH (ON AT RECORD POSITION)  
 S109, 209 : PB EQUALIZER SWITCH (ON AT 7-1/2 IPS)  
 S201 : POWER SWITCH  
 S202 : AUTOMATIC MOTOR SHUT OFF SWITCH  
 S203 : BIAS OSC ON/OFF SWITCH  
 S101, 201 : COMMUTATEUR D'ENREGISTREMENT/ECOUTE (MONTRE A LA POSITION ENREGISTREMENT)  
 S102, 202 : COMMUTATEUR DE SELECTEUR (TAPE MIC POSITION)  
 S103, 203 : COMMUTATEUR D'EGALISATION (A LA MARCHÉ POUR 19 CM S ET 9,5 CM/S, A L'ARET POUR 4,8 CM/S)  
 S104, 204 : COMMUTATEUR DE MODE (MONTRE A LA POSITION STEREO)  
 S105, 205 : COMMUTATEUR DE HAUT-PARLEUR  
 S106, 206 : COMMUTATEUR D'EGALISATION D'ENREGISTREMENT (A L'ARET POUR 19 CM/S, A LA MARCHÉ POUR 9,5 CM/S ET 4,8 CM/S)  
 S107, 207 : APPRIEL CORRECTEUR  
 S108, 208 : COMMUTATEUR D'ENREGISTREMENT/ECOUTE (A LA POSITION D'ENREGISTREMENT)  
 S109, 209 : COMMUTATEUR D'EGALISATION D'ENREGISTREMENT (A LA MARCHÉ POUR 19 CM/S)  
 S201 : COMMUTATEUR DE MARCHÉ/ARET  
 S202 : COMMUTATEUR DE COUPEURE AUTOMATIQUE  
 S203 : COMMUTATEUR DE CONTROLE DES POLARISATIONS  
 S101, 201 : AUFNAHME/WIEDERGABE-SCHALTER (AUFNAHMESTELLUNG)  
 S102, 202 : WÄHLER (STELLUNG TAPE-MIC)  
 S103, 203 : WIEDERGABE-AUSGLEICHSSCHALTER (BEI 19 UND 9,5 CM/SEK AN, BEI 4,8 CM/SEK AUS)  
 S104, 204 : VERFAHRENSWÄHLER (STELLUNG STEREO)  
 S105, 205 : LAUTSPRECHERSCHALTER  
 S106, 206 : AUFNAHME-AUSGLEICHSSCHALTER (BEI 19 CM/SEK AUS, BEI 9,5 UND 4,8 CM/SEK AN)  
 S107, 207 : EIN/AUS SCHALTER DER RAUSCHUNTERDRÜCKUNG  
 S108, 208 : SCHALTER FÜR AUFNAHME/WIEDERGABE (IN STELLUNG AUFN.)  
 S109, 209 : AUSGLEICHSSCHALTER FÜR WIEDERGABE (BEI 19 CM/SEK)  
 S201 : STROMSCHALTER  
 S202 : AUTOMATISCHE MOTORABSCHALTUNG  
 S203 : EIN/AUS-SCHALTER FÜR VORSpannungsschaltzillator

# Recommended Accessories / Accessoires recommandés



## **Stereo Headphone DR-4A, DR-5A**

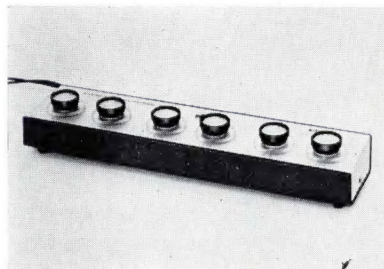
High quality dynamic 8 ohm headphone with a standard phone plug for private stereo listening or monitoring while recording.

## **Casque d'écoute stéréo DR-4A, DR-5A**

Casque d'écoute dynamique de haute qualité à impédance de 8 ohms avec fiche de téléphone standard pour l'écoute stéréo individuelle ou l'écoute en contrôle pendant l'enregistrement.

## **Stereokopfhörer DR-4A, DR-5A**

Hochwertige, dynamische Stereokopfhörer mit 8 Ohm Impedanz und normalem Kopfhörerstecker. Zum privaten Hören und Mithören bei der Aufnahme.



## **Stereo Microphone Mixer MX-65**

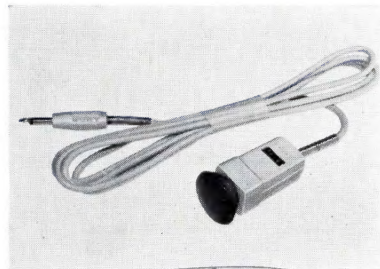
Provides professional mixing facilities for 3 microphones (600 ohm input impedance) or high level (approx. 100K ohm input impedance) sources such as tape recorders. It may be connected stereophonically or monophonically.

## **Mélangeur de microphone stéréo MX-65**

Offre une fonction professionnelle de mixage pour 3 microphones (impédance d'entrée de 600 ohms) ou sources à niveau élevé (impédance d'entrée d'environ 100k ohms) telles qu'un magnétophone. Peut être branché en stéréo ou en mono.

## **Stereo-Mikrofon-Mischpult MX-65**

Eröffnet neue Studiomöglichkeiten: Mischen von 3 Mikrofonen (600 Ohm Impedanz) oder anderen Signalquellen hoher Impedanz (ca. 100 Kilo-ohm). Kann bei Stereo- wie auch bei Mono-Aufnahmen benutzt werden.



## **Telephone Pick-up TP-45**

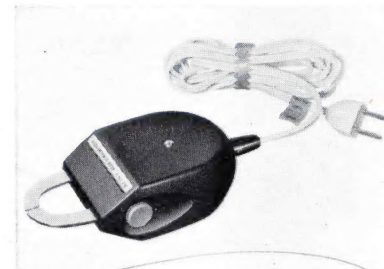
For recording of telephone conversation on tape.

## **Pick-up téléphonique TP-45**

Pour l'enregistrement sur bande des conversations téléphoniques.

## **Telefontonabnehmer TP-45**

Zum Aufnehmen von Telefongesprächen auf Band.



## **Head Demagnetizer HE-2**

For quick and easy demagnetizing of the magnetic heads to keep the recorder in the best reproducing condition.

## **Démagnétiseur de tête HE-2**

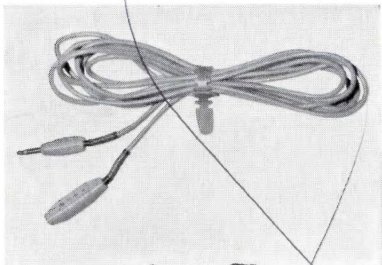
Pour désaimantation rapide et facile des têtes magnétiques, de manière à maintenir le magnétophone dans les meilleures conditions d'enregistrement.

## **Tonkopf-Entmagnetisierer HE-2**

Zum mühelosen, schnellen Entmagnetisieren der Tonköpfe. Wesentlich, um das Tonbandgerät in bestem Zustand zu halten.



# Empfehlenswertes Zubehör



## Microphone Extension Cords EC-5M, -10M, -25M

Series of microphone cords for extension of microphone.

EC- 5M	16'
EC-10M	33'
EC-25M	82'

## Fils d'extension de microphone EC-5M, -10M, -25M

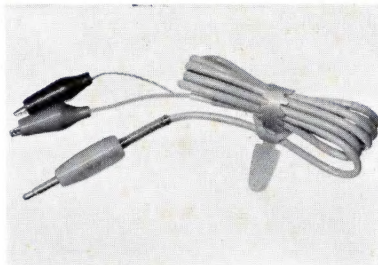
Une série de fils d'extension de microphone pour étendre un fil de microphone.

EC- 5M	5 mètres
EC-10M	10 mètres
EC-25M	25 mètres

## Mikrofonverlängerungskabel EC-5M, -10M, -25M

Geben dem Mikrofon größere Bewegungsfreiheit.

EC- 5M	5 Meter
EC-10M	10 Meter
EC-25M	25 Meter



## Connecting Cord RK-36

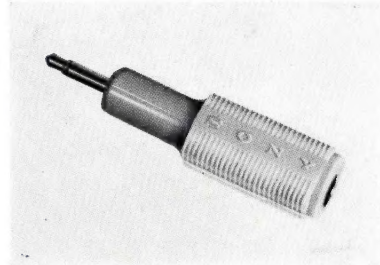
3' long cord with mini-plug on one end and alligator clips on the other end.

## Fil de raccord RK-36

Raccord d'un mètre de long avec fiche mini à une extrémité et pince crocodile à l'autre.

## Verbindungskabel RK-36

1 m langes Kabel mit Miniaturstecker an einem, Krokodilklemmen am anderen Ende.



## Plug Adaptor PC-1

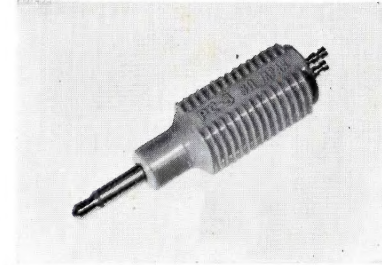
Adaptor Standard phone plug connectors to fit mini jacks.

## Bouchon adaptateur PC-1

Pour adapter à des prises mini les prises de contact téléphonique standard.

## Zwischenstecker PC-1

Zum Anschließen von Miniatursteckern an amerikanische Phono-Buchsen.



## Plug Adaptor PC-3

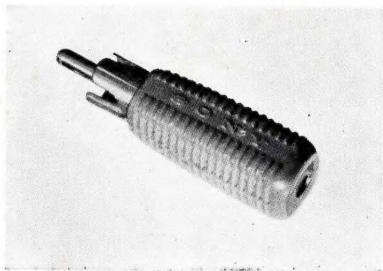
Incorporates 8 ohm resistor. For recording from external speaker jack of a tape recorder or from an earphone jack of a transistor radio. Fits mini jacks.

## Bouchon adaptateur PC-3

Incorpore une résistance de 8 ohms. Pour enregistrement à partir de la prise de haut-parleur extérieur d'un magnétophone, ou de la prise d'écouteur d'une radio à transistors. S'adapte aux prises mini.

## Zwischenstecker PC-3

Mit 8-Ohm Widerstand. Ermöglicht Aufnahmen vom Lautsprecherausgang eines Tonbandgerätes oder vom Ohrhörerausgang eines Transistorradios. Für Miniaturstecker.



**Plug Adaptor PC-5**

Adapts mini-plug connectors to fit phono jack.

**Bouchon adapteur PC-5**

Permet d'adapter les contacts à fiche mini aux prises de phono.

**Zwischenstecker PC-5**

Zum Anpassen von Mini-Steckern an Phonobuchsen.

**SONY CORPORATION**